

ENVIRONMENTAL PROTECTION AGENCY  
Office of Enforcement

REGION 5  
77 West Jackson Boulevard  
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ. NO. 02AH22		PROJECT NAME Cheshire monitoring Study				NO. OF CON- TAINERS	<div style="text-align: right;">Activity Code: <del>12345</del> 90107A</div> <div style="text-align: center; font-size: 2em;">AIR 202028</div>									
SAMPLERS: (Print Name and Sign) Mike Murphy <i>Mike Murphy</i> <i>Mike Murphy</i>																
STA. NO.	DATE	TIME	COM P	GRA B	STATION LOCATION											
DO1	12/9	00:00	X		GUIDING HANDS SCHOOL	1										5-340111 1 to 1
S01	12/9	00:00	X		GUIDING HANDS SCHOOL	1										5-340110 1 to 1
SO2	12/9	00:00	X		RVHS	1										5-340112 1 to 1
SO3	12/9	00:00	X		ADDAVILLE	1										5-340113 1 to 1
																GHS
																Serial # 3012, Pctg Avg = 18.85
																Serial # 3013, Pctg Avg = 20.15
																RVHS
																Serial # 3009, Pctg Avg = 19.05
																Addaville
																Serial # 3011, Pctg Avg = 19.2
Relinquished by: (Signature) <i>Mike Murphy</i>			Date / Time 12-10-01 14:24		Received by: (Signature) <i>William A. [Signature]</i>			Ship To:								
Relinquished by: (Signature)			Date / Time		Received by: (Signature)											
Relinquished by: (Signature)			Date / Time		Received for Laboratory by: (Signature) <i>William A. [Signature]</i>			Date / Time 12/13/01 16:12		ATTN:						
										Airbill Number UPS # 124071990140910054						
Chain of Custody Seal Numbers																

Project No. Project Name CHESHIRE MONITORING STUDY 90107A  
02AH22 AIR 2002 0028 ARRIVAL DATE: 12/13/2001 DUE DATE: 1/3/2002

**Sampler**

Mike Murphy

Cooler ID 02AH221 Page 5-140027

Sample Id:	Station	Date / Time	Grab / Comp	Station Location	No Bottles	Tag Numbers
02AH22DO1	DO1	09/12/2001 00:00:00	<input type="radio"/> Grab <input checked="" type="radio"/> Com	GUIDING HANDS SCHOOL	1	5-340111 1 to 1

Bottle No. 1

Parameter

PM10

Sample Id:	Station	Date / Time	Grab / Comp	Station Location	No Bottles	Tag Numbers
02AH22SO1	SO1	09/12/2001 00:00:00	<input type="radio"/> Grab <input checked="" type="radio"/> Com	GUIDING HANDS SCHOOL	1	5-340110 1 to 1

Bottle No. 1

Parameter

PM10

Sample Id:	Station	Date / Time	Grab / Comp	Station Location	No Bottles	Tag Numbers
02AH22SO2	SO2	09/12/2001 00:00:00	<input type="radio"/> Grab <input checked="" type="radio"/> Com	RVHS	1	5-340112 1 to 1

Bottle No. 1

Parameter

PM10

Sample Id:	Station	Date / Time	Grab / Comp	Station Location	No Bottles	Tag Numbers
02AH22SO3	SO3	09/12/2001 00:00:00	<input type="radio"/> Grab <input checked="" type="radio"/> Com	ADDAVILLE	1	5-340113 1 to 1

Bottle No. 1

Parameter

PM10

## CENTRAL REGIONAL LABORATORY

### Data Checklist

Data Set AIR 2002 0028 Cheshire Monitoring  
Suspended Particle

- ☒ Chain-of-Custody
- ☒ Analysis Request Form(s)\*
- ☐ Sample Tags
- ☒ Transmittal Report w/signatures of the following:
  - Analyst (s)
  - Peer Reviewer
  - Environmental Data Coordinator

\* Analysis Request Forms provide the data user a means to connect sample numbers with sampling locations

Prepared by: Sylvia Griffin 1-8-02  
Data Management Coordinator



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

JAN 08 2002

Date:

Subject: Review of Region 5 Data for **CHESHIRE MONITORING STUDY**

From: **Francis A. Awanya, Chemist** *FAA*  
Region 5 Central Regional Laboratory

To:

Attached are the results for: **CHESHIRE MONITORING STUDY**

CRL data set number: **20020028**

Samples analyzed for: **Suspended Particles**

Results are reported for sample designations: **2002AH22S01, 2002AH22D01, 2002AH22S02, and 2002AH22S03.**



JAN 08 2002 /

Data Management Coordinator and Date Received

Date Transmitted: JAN 08 2002  
/ /

Please have the U.S. EPA Project Manager/Officer complete the Customer Satisfaction Survey, attached, or call the CRL Sample Coordinator at 3-1226.

Please sign and date this form below and return it with any comments to:

Sylvia Griffin  
Data Management Coordinator  
Region 5 Central Regional Laboratory  
ML-10C

/ /  
Received by and Date

Comments:

ENVIRONMENTAL PROTECTION AGENCY  
REGION V  
CENTRAL REGIONAL LABORATORY  
FINAL RESULT REPORT FOR THE TEAM: ANALYTICAL AND INORGANIC (A&I)

DIVISION/BRANCH: AIR DIVISION SAMPLING DATE: 12/12/2001 LAB ARRIVAL DATE: 12/13/2001 DUE DATE: 01/03/2002  
DU NUMBER: 90101A DATA SET NUMBER: 20020028 STUDY: CHESHIRE MONITORING STUDY PRIORITY: 1 LABORATORY: CRL

SAMPLE #	CRL LOG NUMBER	SAMPLE DESCRIPTION	SUSPENDED PARTICLE (g/filter)			
1	2002AH22S01	GUIDING HANDS SCHOOL	R			
2	2002AH22D01	GUIDING HANDS SCHOOL	0.0005 J			
3	2002AH22S02	RVHS	0.0097 J			
4	2002AH22S03	ADDAVILLE	0.0079 J			
DATE OF ANALYSIS			01/02-04/2002			
ANALYST			FAA			

Reviewed by: E.8 Date: 1/8/2002

CRL SOP: HK015	Date: 07 January 2000	Revision No: 1
Data review for the Analytical and Inorganic Group		Page_ of _

### ATTACHMENT II

#### CRL Analytical and Inorganics Data Review Checklist

Batch Number: 20020028 Facility: CHESHIRE MONITORING STUDY  
 Parameter: SUSPENDED PARTICLES CRL SOP: AIG 047

Package Overview:	YES	NO
Raw Data Package Complete?	✓	
Results Reported Correctly?	✓	
Special Requests Done?	N/A	
Calculations Checked?	✓	
Calibration Not Exceeded?	N/A	
Manual Peak Integration performed? Circle one IC or GC and Check	N/A	
Field QC Checked?	N/A	
Quality Control:		
Holding Times Met?	N/A	
Preservation Checked?	N/A	
Proper Digestion Verified?	N/A	
Initial Instrument Performance Checks Verified?	✓	
Calibration Verification Checked?	N/A	
Sample-Specific QC (Internal Standards or Analytical Spikes) Okay?	N/A	
Matrix QC Checked?	N/A	
Digestion Blanks Checked?	N/A	
Spiked Blank Checked?	N/A	
LCS (if applicable) Checked?	N/A	
QCS (if applicable) Checked?	N/A	
Final Check		
Technical Review Done?	✓	
Narrative Complete?	✓	

Analyst: EJA Peer Reviewer: EJA  
 Date: 1/7/2002 Date: 1/8/2002  
 Comments Attached? (Y/N) N

Data Set Number:	<u>20020028</u>	Parameter:	<u>Suspended Particles</u>
Facility Name:	<u>CHESHIRE MONITORING STUDY</u>		
Study Name:	<u>CHESHIRE MONITORING STUDY</u>		
Date of Narrative:	<u>01/07/2002</u>	Analyst:	<u>Francis A. Awanva</u>
Prepared by:	<u>FAA</u>	Signature:	<u>FAA</u>

### ANALYSIS CASE NARRATIVE

Four (4) exposed filters were received for suspended particle analysis at the Central Regional Laboratory (CRL) on December 13, 2001. Those filters were fractions of clean filters, prepared at the CRL and sent to the field for exposure. Filter identification numbers and other pertinent information obtained from the individual filters and packaging envelopes are presented in the table below.

Filters ID	Samples ID	Tag Number
Q6280140	2002AH22S01	5-340110-1
Q6280141	2002AH22D01	5-340111-1
Q6280142	2002AH22S02	5-340112-1
Q6280143	2002AH22S03	5-340113-1

Filter equilibrations and final weighting of exposed filters were performed according to CRL.SOP AIG047. Analysis of exposed filters was first performed on 12/20/2001 but was repeated because the temperature/humidity recorder failed. It was completed on 01/04/2002.

#### QUALITY CONTROL (QC):

Analysis results were evaluated using the QC requirements of CRL.SOP AIG047. All required quality control criteria for the laboratory, method, and system performance audits were evaluated and determined to be within the limits with the following exceptions;

***Tears in filters;*** Two tears, in the middle and at the edge, were observed in exposed filter Q6280140 (CRL sample I.D number 2002AH22S01). Final filter weight determined was less than initial. Suspended particle result for this filter is unusable.

One tear was observed in the middle of exposed filter Q6280141 (CRL sample I.D number 2002AH22D01). Large tears and scratches were observed in exposed filter Q6280143 (CRL sample I.D number 2002AH22S02). A large tear in the middle, and scratches, were also observed in exposed filter Q6280143 (CRL sample I.D number 2002AH22S03). Use those results with caution. Suspended particle results for those samples could be biased low due to loss of particles or filter materials.

A probable cause for all the tears or scratches observed are activities related to removal of exposed filters from the individual sampling equipment in the field.

<b>Data Set Number:</b>	<u>20020028</u>	<b>Parameter:</b>	<u>Suspended Particles</u>
<b>Facility Name:</b>	<u>CHESHIRE MONITORING STUDY</u>		
<b>Study Name:</b>	<u>CHESHIRE MONITORING STUDY</u>		
<b>Date of Narrative:</b>	<u>01/07/2002</u>	<b>Analyst:</b>	<u>Francis A. Awanya</u>
<b>Prepared by:</b>	<u>FAN</u>	<b>Signature:</b>	<u>FAN</u>

### ANALYSIS CASE NARRATIVE

**Duplicate audits;** Duplicate measurement obtained by a second analyst on sample 2002AH22S01 (Differences = 0.0019 g) was out of the limit (Limit  $\leq \pm 0.00005$  g). The second weighing was lower than the first. Probable cause is loss of loose filter materials and suspended particles due to the tears and damage described above. Results of duplicate weighing on a second filter were within the limit.

### SAMPLE RESULTS:

Suspended solid results for samples 2002AH22D01, 2002AH22S02, and 2002AH22S03 could be biased low. "J" flags are assigned to those values. Use those results with caution. Suspended particle results obtained for sample 2002AH22S01 is unusable. "R" flag is assigned with no value reported.

### ELECTRONIC DATA:

No electronic data.

# CHESHIRE AIR MONITORING PROJECT

## PM10

Parameter: Suspended Particles

Data Set Numbers: 20020027 & 20020028

Date of Analysis 01/02-04/2002

Analyst: FAA

### BALANCE VERIFICATION:

Standard Weights	Balanced weight	Differences
Actual (g)	Balanced (g)	(g)
Limit +/-0.0005 g		
<b>Data set Number 20020027,28</b>		
1.0000	1.0001	-0.0001
2.0000	2.0000	0.0000
5.0000	4.9999	0.0001

### QC-SUMMARY FOR EXPOSED FILTERS

Filter ID	CRL Sample	Sampling	ANALYST	Exposed
Number	I.D Number	Date		weight (g)
<b>Data set Number 20020027, 20020028</b>				
Q6280141	2002AH22D01	12/12/01	Analyst 1	4.3940
Q6280141	2002AH22D01	12/12/01	Analyst 2	4.3941
Differences (Limit +/- 5 mg).....				-0.0001
Q6280140	2002AH22S01	12/12/01	Analyst 1	4.3910
Q6280140	2002AH22S01	12/12/01	Analyst 2	4.3891
Differences (Limit +/- 5 mg).....				0.0019

**CHESHIRE AIR MONITORING PROJECT**  
**PM10**

Filter ID	CRL Sample	Sampling	Station	Sampler	Pstg	P1/Pa	Total	Pre Weight	Exposed	Weight	PM10
Number	I.D Number	Date	Location	SN	Avg		Volume (M^3)	of filters (g)	weight (g)	Gain	(UG/M^3)
<b>Data set Number 20020027</b>											
Q6280132	2002AH21S01	12/11/01	Guiding Hands School	3012	19.75		0.00	4.3378	4.3726	0.0348	ERR
Q6280133	2002AH21D01	12/11/01	Guiding Hands School	3013	18.50		0.00	4.3637	4.3822	0.0185	ERR
G6280134	2002AH21S02	12/11/01	RVHS	3009	20.00		0.00	4.3930	4.3991	0.0061	ERR
Q6280135	2002AH21S03	12/11/01	ADDAVILLE	3011	20.05		0.00	4.3633	4.3597	-0.0036	ERR
<b>Data set Number 20020028</b>											
Q6280140	2002AH22S01	12/12/01	Guiding Hands School	3012	19.00		0.00	4.3915	4.3910	-0.0005	ERR
Q6280141	2002AH22D01	12/12/01	Guiding Hands School	3013	19.05		0.00	4.3935	4.3940	0.0005	ERR
G6280142	2002AH22S02	12/12/01	RVHS	3009	18.75		0.00	4.3456	4.3553	0.0097	ERR
Q6280143	2002AH22S03	12/12/01	ADDAVILLE	3011	18.75		0.00	4.3709	4.3788	0.0079	ERR



[illegible]



COMMENTS:

STD \_\_\_\_\_ ACTUAL \_\_\_\_\_  
 FLOW  $\text{m}^3/\text{min}$  \_\_\_\_\_  
 ELAPSED TIME 1440 MINUTES \_\_\_\_\_  
 AVG. RECORDER RESP. 18.85 TEMP  $^{\circ}\text{C}$  \_\_\_\_\_  
 TSP \_\_\_\_\_  
 PM-10 ☒ AIRS \_\_\_\_\_  
 DATE 12-9-01 OPERATOR OEPA \_\_\_\_\_  
 SITE CHS # 3013 3012  
 06280140 06280141  
 PRESS mmHg \_\_\_\_\_  
 TOTAL FLOW  $\text{m}^3$  \_\_\_\_\_  
 INITIAL WT \_\_\_\_\_  
 FINAL WT \_\_\_\_\_  
 SAMPLE WT \_\_\_\_\_  
 $\text{ug}/\text{m}^3$  \_\_\_\_\_  
 PM-10 \_\_\_\_\_

## US EPA Region 5 Field Sample



5-340110-1

Parameters PM10

2002028

Preservative None

S M M D B D

Sample ID 02AH22S01

X

Sampler

Mike Murphy

Date

12-10-01



COMMENTS:

PM-10                      AIRS                       
 TSP                      SITE 615 # 3013, 628041  
 AVG. RECORDER RESP. 20.15 TEMP            °C            K             
 ELAPSED TIME 1440 MINUTES            PRESS            mmHg             
 FLOW            m<sup>3</sup>/min            TOTAL FLOW            m<sup>3</sup>            SAMPLE WT            ug/m<sup>3</sup>  
 STD            ACTUAL            PM-10           

OPERATOR CEPH DATE 12-7-01

## US EPA Region 5 Field Sample



5-340111-1

Parameters PM10

20020028

Preservative None

S M M D B D

Sample ID 02AH22DO1

X

Sampler Mike MurphyDate 12-10-01



COMMENTS:

STD \_\_\_\_\_ ACTUAL \_\_\_\_\_  
 FLOW  $\text{m}^3/\text{min}$  \_\_\_\_\_  
 ELAPSED TIME 1440 MINUTES \_\_\_\_\_  
 AVG. RECORDER RESP. 19.05 TEMP  $^{\circ}\text{C}$  \_\_\_\_\_  
 TSP \_\_\_\_\_  
 PM-10 \_\_\_\_\_  
 AIRS \_\_\_\_\_  
 SITE RUTS # 3009, Q6280142  
 OPERATOR J. EPA  
 DATE 12-9-01

## US EPA Region 5 Field Sample



5-340112-1

Parameters PM10

20020028

Preservative None

S M MD B D

Sample ID 02AH22S02

X

Sampler Mike Murphy

Date 12-10-01



COMMENTS:

PM-10 AIRS

TSP SITE Acidville # 3011

AVG. RECORDER RESP. 19.2 TEMP °C K

ELAPSED TIME 1440 MINUTES PRESS mmHg

FLOW m³/min TOTAL FLOW m³ SAMPLE WT g

STD ACTUAL PM-10 ug/m³

DATE 12-9-01 OPERATOR CEPH

US EPA Region 5 Field Sample



5-340113-1

Parameters PM10

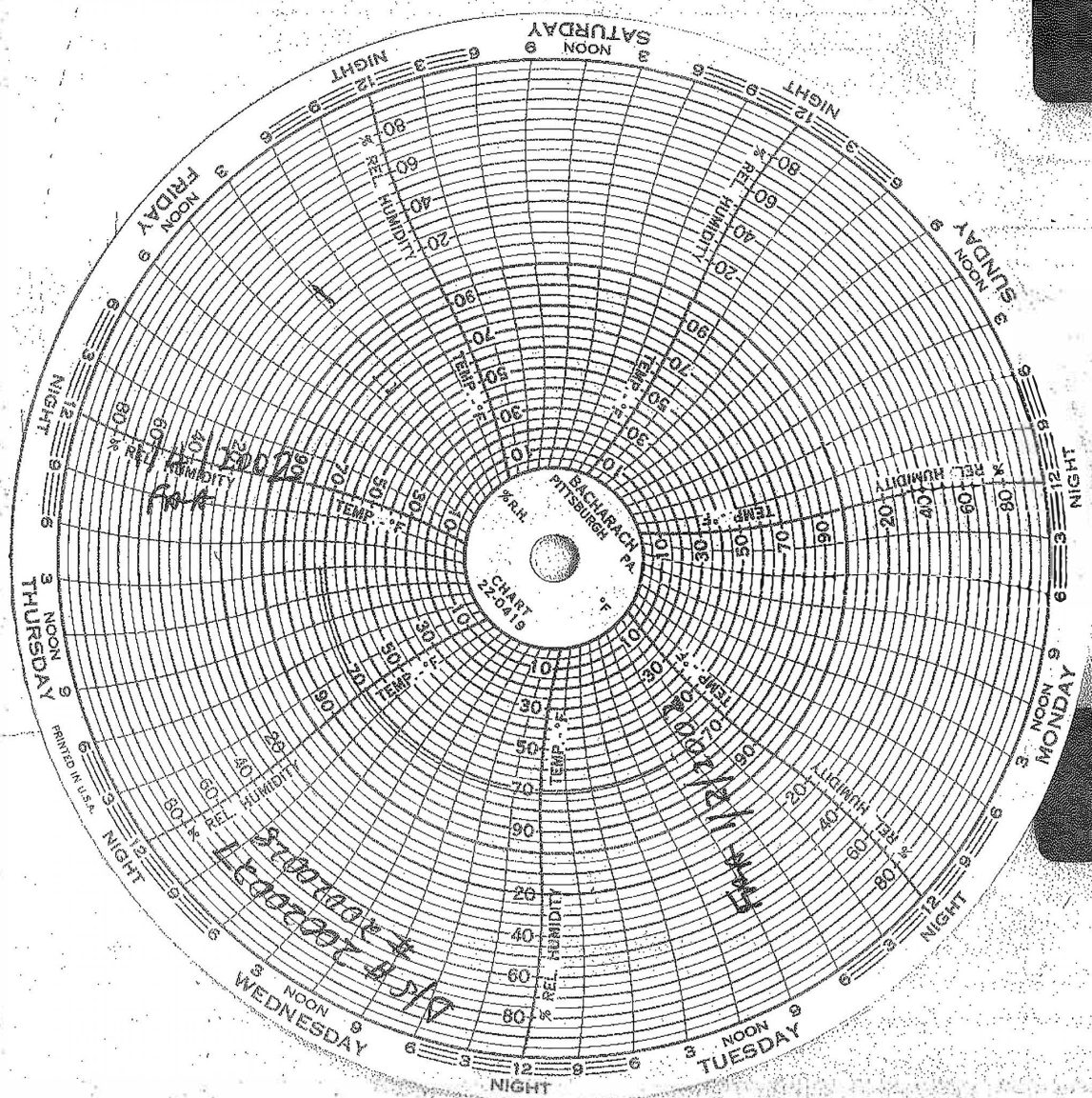
20020028

Preservative None S M M D B D

Sample ID 02AH22S03 X

Sampler Mike Murphy

Date 12-10-01





## General information

## Standard weights, actual (g)

## Balanced weights, balanced (g)

SARTORIUS

 $(500 + 200^{m.84} + 200 + 100)$  1.0000

1.0001

S/N 37010119

2.0000

2.0000

1/4/02

5.0000

4.9999